

SEQUENCE LISTING

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<120> GUAVA (PSIDIUM GUAJAVA) 13-HYDROPEROXIDE
LYASE AND USES THEREOF

<130> 06027.0001U3

<140> 09/578,533

<141> 2000-05-24

<160> 27

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 1

Thr Tyr Pro Pro Ser Leu Ser

1

5

<210> 2

<211> 476

<212> PRT

<213> Psidium Guajava (guava)

<400> 2

2006070" T662400T

Met Ser Ser Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg
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 Pro Thr Thr Leu Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro
 20 25 30
 Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly
 35 40 45
 Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val
 50 55 60
 Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn
 65 70 75 80
 Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe
 85 90 95
 Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met
 100 105 110
 Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp
 115 120 125
 Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile
 130 135 140
 Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu
 145 150 155 160
 Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn
 165 170 175
 Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser
 180 185 190
 Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys
 195 200 205
 Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro
 210 215 220
 Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His
 225 230 235 240
 Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu
 245 250 255
 Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys
 260 265 270
 Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe
 275 280 285
 Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr
 290 295 300

1004591 01090
 205070 T652400T

Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu
 305 310 315 320
 Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser
 325 330 335
 Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg
 340 345 350
 Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe
 355 360 365
 Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu
 370 375 380
 Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp
 385 390 395 400
 Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu
 405 410 415
 Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr
 420 425 430
 Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala
 435 440 445
 Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly
 450 455 460
 Ser Ser Ser Ser Ile Thr Ala Val Glu Lys Ala Asn
 465 470 475

<210> 3

<211> 480

<212> PRT

<213> Psidium Guajava (guava)

<400> 3

Met Ser Pro Ala Met Ser Ser Thr Tyr Pro Pro Ser Leu Ser Pro Pro
 1 5 10 15
 Ser Ser Pro Arg Pro Thr Thr Leu Pro Val Arg Thr Ile Pro Gly Ser
 20 25 30
 Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe
 35 40 45
 Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr
 50 55 60
 Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe
 65 70 75 80

206070" T662400T

Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe
 85 90 95
 Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val
 100 105 110
 Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys
 115 120 125
 Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe
 130 135 140
 Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val
 145 150 155 160
 Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala
 165 170 175
 Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe
 180 185 190
 Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro
 195 200 205
 Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu
 210 215 220
 Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu
 225 230 235 240
 Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp
 245 250 255
 Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val
 260 265 270
 Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His
 275 280 285
 Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile
 290 295 300
 Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu
 305 310 315 320
 Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu
 325 330 335
 Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr
 340 345 350
 Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala
 355 360 365
 Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys
 370 375 380

206070 "T662400T

Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro
 385 390 395 400
 Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln
 405 410 415
 Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr
 420 425 430
 Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val
 435 440 445
 Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn
 450 455 460
 Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu Lys Ala Asn
 465 470 475 480

<210> 4

<211> 483

<212> PRT

<213> Psidium Guajava (guava)

<400> 4

Met Ser Asn Met Ser Pro Ala Met Ser Ser Thr Tyr Pro Pro Ser Leu
 1 5 10 15
 Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu Pro Val Arg Thr Ile
 20 25 30
 Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu
 35 40 45
 Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile
 50 55 60
 Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe
 65 70 75 80
 Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys
 85 90 95
 Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn
 100 105 110
 Val Leu Val Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile
 115 120 125
 Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val
 130 135 140
 Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu
 145 150 155 160

206670" T662400F

Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser
 165 170 175
 Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys
 180 185 190
 Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala
 195 200 205
 Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp
 210 215 220
 Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro
 225 230 235 240
 Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val
 245 250 255
 Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg
 260 265 270
 Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu
 275 280 285
 Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly
 290 295 300
 Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr
 305 310 315 320
 Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly
 325 330 335
 Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser
 340 345 350
 Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr
 355 360 365
 Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe
 370 375 380
 Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met
 385 390 395 400
 Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg
 405 410 415
 Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly
 420 425 430
 Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys
 435 440 445
 Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg
 450 455 460

206070" T562400T

Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu
 465 470 475 480
 Lys Ala Asn

<210> 5
 <211> 8
 <212> PRT
 <213> Psidium Guajava (guava)

<400> 5
 Met Ala Arg Val Val Met Ser Asn
 1 5

<210> 6
 <211> 488
 <212> PRT
 <213> Psidium Guajava (guava)

<400> 6
 Met Ala Arg Val Val Met Ser Asn Met Ser Pro Ala Met Ser Ser Thr
 1 5 10 15
 Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu
 20 25 30
 Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro
 35 40 45
 Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe
 50 55 60
 Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn
 65 70 75 80
 Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val
 85 90 95
 Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile
 100 105 110
 Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met Pro Ser Val Lys
 115 120 125
 Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro
 130 135 140

205070" T662400T

Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser
 145 150 155 160
 Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp
 165 170 175
 Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile
 180 185 190
 Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile
 195 200 205
 Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala
 210 215 220
 Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile
 225 230 235 240
 Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr
 245 250 255
 Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile
 260 265 270
 Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly
 275 280 285
 Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe
 290 295 300
 Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn
 305 310 315 320
 Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val
 325 330 335
 Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met
 340 345 350
 Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro
 355 360 365
 Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser
 370 375 380
 His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr
 385 390 395 400
 Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser
 405 410 415
 Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu
 420 425 430
 Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys
 435 440 445

20042991 010902

Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val
 450 455 460
 Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser
 465 470 475 480
 Ile Thr Ala Val Glu Lys Ala Asn
 485

<210> 7

<211> 1431

<212> DNA

<213> Psidium Guajava (guava)

<400> 7

atgtcgtcca cctaccccc gtctctgtcc ccgccgtcgt cgccgcggcc gaccacccctc	60
ccggtgcgga cgatccccggg cagctacggg tggccccctcc tcggccccgat atcggaaccgc	120
ctggactact tctggttcca agggcccgag acgttcttca ggaagaggat cgagaagtac	180
aagagcaccg tgttcgcgc gaacgtgcct ccgtgcttcc ccttcttctc gaacgtgaac	240
cctaacgtcg tggtcgtcct cgattgcgag tccttcgctc acttggtcga catggagatc	300
gtggagaaga gcaacgtcct cgtcggcgac ttcattgccga gcgtgaagta caccgggaac	360
atccgggtct gcgcttacct cgacacttcc gagctcaac acgctcaggt gaagaacttt	420
gcgatggaca tactgaagag gagctccaaa gtgtgggaga gcgaagtgat ctcgaacttg	480
gacaccatgt gggacaccat cgagtccagc ctgcgcaagg acggcaacgc cagcgtcatc	540
ttccctctcc aaaagtctct cttcaacttc ctctccaagt ccatcatcgg cgctgaccgc	600
gccgcctcgc cgcaggtggc caagtccggc tacgccatgc ttgaccggtg gctcgtcttc	660
cagctcctcc ccaccatcaa cattggcgta ctgcagcctc tagtgagat ttttctgcat	720
tcttgggcat acccttttgc gctggtgagc ggggactaca acaagctcta ccagttcatc	780
gagaaggaag gccgagaagc ggtcgaaagg gcgaaggccg agttcggatt gacacaccag	840
gaggccatcc acaacttgct gttcatcctc ggcttcaacg cgttcggcgg cttctcgatc	900
ttctcccca cgttgctgag caacatactt agcgacacaa ccggactgca ggaccggctg	960
aggaaggagg tccgggcaaa gggagggccg gcgttgagct tcgcctcggg gaaggagatg	1020
gaactcgtga agtcggtcgt gtacgagacg ctgcggctca acccgcccgt cccgttccaa	1080
tacgctcgag cccggaagga cttccagctc aagtcccacg actctgtctt tgatgtcaag	1140
aaaggcgagc tgctatgcgg gtatcagaag gtgggtgatga cagaccgaa agtggttcgac	1200
gaaccggaga gtttcaactc ggaccgggtc gtccaaaaca gcgagctact ggattacctg	1260
tactggtcca acgggcccga gaccggaacg ccgaccgagt cgaacaagca gtgcgcggct	1320
aaggactacg tcaccctcac cgcttgcttc ttogttgcct acatgtttcg acggtacaat	1380
tccgtcacag gaagctcgag ctcgatcaca gccgttgaaa aggcccaactg a	1431

<210> 8

206070" T662400T

<211> 1443

<212> DNA

<213> Psidium Guajava (guava)

<400> 8

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ccgaccaccc	tcccgggtgcg	gacgatcccc	ggcagctacg	ggaggccccc	cctcggcccc	120
atatcggacc	gcctggacta	cttctgggtc	caaggccccg	agacgttctt	caggaagagg	180
atcgagaagt	acaagagcac	cgtgttccgc	gcgaacgtgc	ctccgtgctt	cccccttctt	240
tcgaacgtga	accctaactg	cgtgggtcgc	ctcgattgcg	agtccttcgc	tcacttggtc	300
gacatggaga	tcgtggagaa	gagcaacgtc	ctcgctggcg	acttcattgc	gagcgtgaag	360
tacaccggga	acatccgggt	ctgcgcttac	ctcgacactt	ccgagcctca	acacgctcag	420
gtgaagaact	ttgcgatgga	catactgaag	aggagctcca	aagtgtggga	gagcgaagtg	480
atctcgaact	tggacaccat	gtgggacacc	atcgagtcca	gcctcgccaa	ggacggcaac	540
gccagcgtca	tcttccctct	ccaaaagtgc	ctcttcaact	tcctctccaa	gtccatcatc	600
ggcgtgacc	cggccgcctc	gccgcaggtg	gccaagtccg	gctacgccat	gcttgaccgg	660
tggctcgcgc	tccagctcct	ccccaccatc	aacattggcg	tactgcagcc	tctagtggag	720
atttttctgc	attcttgggc	ataccctttt	gcgctgggtg	gcggggacta	caacaagctc	780
taccagttca	tcgagaagga	aggccgagaa	gcggctgaaa	gggcgaaggc	cgagttcgga	840
ttgacacacc	aggaggccat	ccacaacttg	ctgttcatcc	tcggcttcaa	cgcgttcggc	900
ggcttctcga	tcttccctcc	cacgttgctg	agcaacatac	ttagcgacac	aaccggactg	960
caggaccggc	tgaggaagga	ggtccgggca	aagggagggc	cggcgttgag	cttcgcctcg	1020
gtgaaggaga	tggaaactcg	gaagtcgggc	gtgtacgaga	cgtgcgggct	caaccgcgcc	1080
gtcccgttcc	aatacgctcg	agcccgggaag	gacttccagc	tcaagtccca	cgactctgtc	1140
tttgatgtca	agaaaggcga	gctgctatgc	gggtatcaga	aggtggtgat	gacagaccgg	1200
aaagtgttcg	acgaaccgga	gagcttcaac	tcggaccggg	tcgtccaaaa	cagcgagcta	1260
ctggattacc	tgtactgggc	caacggggcc	cagaccggaa	cgccgaccga	gtcgaacaag	1320
cagtgcgcgg	ctaaggacta	cgtcaccctc	accgcttgct	tcttcggtgc	ctacatgttt	1380
cgacggtaca	attccgtcac	aggaagctcg	agctcgatca	cagccgttga	aaaggccaac	1440
tga						1443

<210> 9

<211> 1452

<212> DNA

<213> Psidium Guajava (guava)

<400> 9

atgagcaaca	tgctgcgggc	catgtcgtcc	acctaccccc	cgtctctgtc	cccgcgctcg	60
tcgccgcggc	cgaccaccct	cccgggtgcg	acgatccccg	gcagctacgg	gtggcccttc	120

10042991.010902

ctcggccccga tatcggaccg cctggactac ttctggttcc aaggccccga gacgttcttc 180
 aggaagagga tcgagaagta caagagcacc gtgttcgcg cgaacgtgcc tccgtgcttc 240
 cccttcttct cgaacgtgaa ccctaacgtc gtggtcgtcc tcgattgcga gtccttcgct 300
 cacttgttcg acatggagat cgtggagaag agcaacgtcc tcgtcggcga cttcatgccg 360
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 cacgtcagg tgaagaactt tgcgatggac atactgaaga ggagctccaa agtgtgggag 480
 agcgaagtga tctcgaactt ggacaccatg tgggacacca tcgagtccag cctcgccaag 540
 gacggcaacg ccagcgtcat cttccctctc caaaagtcc tcttcaactt cctctccaag 600
 tccatcatcg gcgctgaccc ggccgcctcg ccgcaggtgg ccaagtccgg ctacgccatg 660
 cttgaccggt ggctcgctct ccagctcctc cccaccatca acattggcgt actgcagcct 720
 ctagtggaga tttttctgca ttcttgggca tacccttttg cgctggtgag cggggactac 780
 aacaagctct accagttcat cgagaaggaa ggccgagaag cggtcgaaaag ggcgaaggcc 840
 gagttcggat tgacacacca ggaggccatc cacaacttgc tgttcacct cggcttcaac 900
 gcgttcggcg gcttctcgat cttcctcccc acgttgctga gcaacatact tagcgacaca 960
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 ttcgcctcgg tgaaggagat ggaactcgtg aagtcggtcg tgtacgagac gctgcggctc 1080
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 gactctgtct ttgatgtcaa gaaaggcgag ctgctatgcg ggtatcagaa ggtggtgatg 1200
 acagaccga aagtgttcga cgaaccggag agcttcaact cggaccggtt cgtccaaaac 1260
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 tcgaacaagc agtgcgcggc taaggactac gtcaccctca ccgcttgtct cttcgttgcc 1380
 tacatgtttc gacggtacaa ttccgtcaca ggaagctcga gctcgatcac agcgttgaa 1440
 aaggccaact ga 1452

<210> 10

<211> 1467

<212> DNA

<213> Psidium Guajava (guava)

<400> 10

atggcgaggg tcgtgatgag caacatgtcg ccggccatgt cgtccaccta cccccgtct 60
 ctgtccccgc cgtcgtcgcc gcggccgacc accctcccgg tcgggacgat cccgggcagc 120
 tacgggtggc cctcctcgg cccgatatcg gaccgcctgg actacttctg gttccaaggc 180
 ccggagacgt tcttcaggaa gaggatcgag aagtacaaga gcaccgtgtt ccgcgcgaac 240
 gtgcctccgt gcttcccctt cttctcgaac gtgaacccta acgtcgtggt cgtcctcgat 300
 tgcgagtcct tcgctcactt gttcgacatg gagatcgtgg agaagagcaa cgtcctcgtc 360
 ggcgacttca tgccgagcgt gaagtacacc gggaacatcc ggggtctgcgc ttacctcgac 420
 acttccgagc ctcaacacgc tcaggtgaag aactttgcga tggacatact gaagaggagc 480
 tccaaagtgt gggagagcga agtgatectg aacttggaca ccatgtggga caccatcgag 540

tccagcctcg	ccaaggacgg	caacgccagc	gtcatcttcc	ctctccaaaa	gttcctcttc	600
aacttcctct	ccaagtccat	catcggcgct	gacccggccg	cctcgccgca	ggtaggccaag	660
tccggctacg	ccatgcttga	cgggtggctc	gtctctccagc	tcctccccac	catcaacatt	720
ggcgtactgc	agcctctagt	ggagattttt	ctgcattctt	gggcataccc	ttttgcgctg	780
gtgagcgggg	actacaacaa	gctctaccag	ttcatcgaga	aggaaggccg	agaagcggtc	840
gaaagggcga	aggccgagtt	cggattgaca	caccaggagg	ccatccacaa	cttgctgttc	900
atcctcggct	tcaacgcgtt	cggcggcttc	tcgatcttcc	tccccacgtt	gctgagcaac	960
atacttagcg	acacaaccgg	actgcaggac	cggctgagga	aggaggtccg	ggcaaaggga	1020
gggccggcgt	tgagcttcgc	ctcgggtgaag	gagatggaac	tcgtgaagtc	ggtcgtgtac	1080
gagacgctgc	ggctcaaccc	gcccgtccc	ttccaatacg	ctcgagccc	gaaggacttc	1140
cagctcaagt	cccacgactc	tgtctttgat	gtcaagaaa	gcgagctgct	atgcgggtat	1200
cagaaggtgg	tgatgacaga	cccgaagtg	ttcgacgaac	cggagagctt	caactcggac	1260
cggttcgtcc	aaaacagcga	gctactggat	tacctgtact	ggccaacgg	gccgcagacc	1320
ggaacgccga	ccgagtcgaa	caagcagtg	gcggctaagg	actacgtcac	cctcaccgct	1380
tgtctcttcg	ttgcctacat	gtttcgacgg	tacaattccg	tcacaggaag	ctcgagctcg	1440
atcacagccg	ttgaaaaggc	caactga				1467

<210> 11

<211> 1443

<212> DNA

<213> Capsicum annum (green pepper)

<400> 11

atgataccta	taatgagctc	tgctcctcta	tcaactgcta	caccaatata	tctccccgta	60
cgtaaaattc	cagggagcta	cgggtttcca	ttattagggc	cactttggga	tcgattagac	120
tataactggg	tccaaaagct	cccagatttc	ttcagcaaga	gagtcgaaaa	gtataacagc	180
acggtattca	gaacgaatgt	accgccttgt	tttccatttt	ttttgggtgt	aaatccaaat	240
gtagtgggcg	tactggatgt	caagtcattt	gcacatctat	ttgatatgga	gattgttgag	300
aaagctaattg	tgcttggttg	tgatttcatg	cccagtgttg	tttatactgg	tgatatgcgt	360
gtttgtgctt	atcttgatac	ttctgaacct	aaacatactc	agattaagaa	cttttcattg	420
gacatcctaa	aaagaagttc	aaagacatgg	gtgcctacac	tagttaaaga	acttgataca	480
ctgttcggaa	cttttgaaatc	agatctttca	aaatccaaat	cagcttctct	tctccctgca	540
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<210> 12

<211> 1638

<212> DNA

<213> Musa sp. (banana)

<400> 12

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gtcaccacgc tgccgacgag gcccatccct ggaagctacg gcccgccgct ggtgggcccc	120
ctcaaggacc gcctcgacta cttctggttt cagggaccgg agaccttctt ccgcagccgg	180
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gttgagagtc acccccgct ggtcaccgtc ctgcactgca catccttctc cgccctcttc	300
gacctcgagg tcgtggagaa gaagaacatt ctcatcgagg actacatgcc cagcctcagc	360
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 taaggagacg gccaaactcca ccgttgctaa ttcaagtcgt actccaaatc ggtattcata 1560
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 aaaaaaaaaa aaaaaaaaaa 1638

<210> 13

<211> 11

<212> PRT

<213> Psidium Guajava (guava)

<400> 13

Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln

1

5

10

<210> 14

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 14

Asn Phe Ala Met Asp Ile Leu

1

5

<210> 15

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 15

Phe Leu Phe Asn Phe Leu Ser

1

5

<210> 16

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

206070" T6624007

<223> Description of artificial sequence:
/note=synthetic construct

<400> 16

gcggatccgg ccatgagcaa catgtcg

27

<210> 17

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:
/note=synthetic construct

<400> 17

aatgttgatg gtggggagga g

21

<210> 18

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:
/note=synthetic construct

<400> 18

gcggatccgg ccatgtcgcc ggccat

26

<210> 19

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:
/note=synthetic construct

206070" T652400T

<400> 19

gcggatccgg ccatgtcgtc cacctac

27

<210> 20

<211> 8

<212> PRT

<213> Psidium Guajava (guava)

<400> 20

Thr Tyr Pro Pro Ser Leu Ser Pro

1

5

<210> 21

<211> 10

<212> PRT

<213> Psidium Guajava (guava)

<400> 21

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser

1

5

10

<210> 22

<211> 12

<212> PRT

<213> Psidium Guajava (guava)

<400> 22

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro

1

5

10

<210> 23

<211> 13

<212> PRT

<213> Psidium Guajava (guava)

<400> 23

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg

1

5

10

206070" T562400T

<210> 24

<211> 14

<212> PRT

<213> Psidium Guajava (guava)

<400> 24

Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro

1

5

10

<210> 25

<211> 480

<212> PRT

<213> Capsicum annum (green pepper)

<400> 25

Met Ile Pro Ile Met Ser Ser Ala Pro Leu Ser Thr Ala Thr Pro Ile

1

5

10

15

Ser Leu Pro Val Arg Lys Ile Pro Gly Ser Tyr Gly Phe Pro Leu Leu

20

25

30

Gly Pro Leu Trp Asp Arg Leu Asp Tyr Asn Trp Phe Gln Lys Leu Pro

35

40

45

Asp Phe Phe Ser Lys Arg Val Glu Lys Tyr Asn Ser Thr Val Phe Arg

50

55

60

Thr Asn Val Pro Pro Cys Phe Pro Phe Phe Leu Gly Val Asn Pro Asn

65

70

75

80

Val Val Ala Val Leu Asp Val Lys Ser Phe Ala His Leu Phe Asp Met

85

90

95

Glu Ile Val Glu Lys Ala Asn Val Leu Val Gly Asp Phe Met Pro Ser

100

105

110

Val Val Tyr Thr Gly Asp Met Arg Val Cys Ala Tyr Leu Asp Thr Ser

115

120

125

Glu Pro Lys His Thr Gln Ile Lys Asn Phe Ser Leu Asp Ile Leu Lys

130

135

140

Arg Ser Ser Lys Thr Trp Val Pro Thr Leu Val Lys Glu Leu Asp Thr

145

150

155

160

Leu Phe Gly Thr Phe Glu Ser Asp Leu Ser Lys Ser Lys Ser Ala Ser

165

170

175

"01000" T662400F

Leu Leu Pro Ala Leu Gln Lys Phe Leu Phe Asn Phe Phe Ser Leu Thr
 180 185 190
 Phe Leu Gly Ala Asp Pro Ser Ala Ser Pro Glu Ile Ala Asn Ser Gly
 195 200 205
 Phe Ala Tyr Leu Asp Ala Trp Leu Ala Ile Gln Leu Ala Pro Thr Val
 210 215 220
 Ser Ile Gly Val Leu Gln Pro Leu Glu Glu Ile Phe Val His Ser Phe
 225 230 235 240
 Ser Tyr Pro Tyr Phe Leu Val Arg Gly Gly Tyr Glu Lys Leu Ile Lys
 245 250 255
 Phe Val Lys Ser Glu Ala Lys Glu Val Leu Thr Arg Ala Gln Thr Asp
 260 265 270
 Phe Gln Leu Thr Glu Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu
 275 280 285
 Gly Phe Asn Ala Phe Gly Gly Phe Thr Ile Phe Leu Pro Thr Leu Leu
 290 295 300
 Gly Asn Leu Gly Asp Glu Lys Asn Ala Glu Met Gln Glu Lys Leu Arg
 305 310 315 320
 Lys Glu Val Arg Glu Lys Val Gly Thr Asn Gln Glu Asn Leu Ser Phe
 325 330 335
 Glu Ser Val Lys Glu Met Glu Leu Val Gln Ser Phe Val Tyr Glu Ser
 340 345 350
 Leu Arg Leu Ser Pro Pro Val Pro Ser Gln Tyr Ala Arg Ala Arg Lys
 355 360 365
 Asp Phe Met Leu Ser Ser His Asp Ser Val Tyr Glu Ile Lys Lys Gly
 370 375 380
 Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Lys Asp Pro Lys Val
 385 390 395 400
 Phe Asp Glu Pro Glu Lys Phe Met Leu Glu Arg Phe Thr Lys Glu Lys
 405 410 415
 Gly Lys Glu Leu Leu Asn Tyr Leu Phe Trp Ser Asn Gly Pro Gln Thr
 420 425 430
 Gly Ser Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Ala Val
 435 440 445
 Thr Leu Thr Ala Ser Leu Ile Val Ala Tyr Ile Phe Gln Lys Tyr Asp
 450 455 460
 Ser Val Ser Phe Ser Ser Gly Ser Leu Thr Ser Val Lys Lys Ala Cys
 465 470 475 480

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<210> 26

<211> 483

<212> PRT

<213> Musa sp. (banana)

<400> 26

Met	Ala	Met	Met	Trp	Ser	Ser	Ala	Ser	Ala	Thr	Ala	Val	Thr	Thr	Leu
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Pro	Thr	Arg	Pro	Ile	Pro	Gly	Ser	Tyr	Gly	Pro	Pro	Leu	Val	Gly	Pro
				20				25					30		
Leu	Lys	Asp	Arg	Leu	Asp	Tyr	Phe	Thr	Phe	Gln	Gly	Pro	Glu	Thr	Phe
				35				40					45		
Phe	Arg	Ser	Arg	Met	Ala	Thr	His	Lys	Ser	Thr	Val	Phe	Arg	Thr	Asn
				50				55				60			
Met	Pro	Pro	Thr	Phe	Pro	Phe	Phe	Val	Gly	Val	Asp	Pro	Arg	Val	Val
65					70					75				80	
Thr	Val	Leu	Asp	Cys	Thr	Ser	Phe	Ser	Ala	Leu	Phe	Asp	Leu	Glu	Val
				85					90					95	
Val	Glu	Lys	Lys	Asn	Ile	Leu	Ile	Gly	Asp	Tyr	Met	Pro	Ser	Leu	Ser
				100				105					110		
Phe	Thr	Gly	Asp	Thr	Arg	Val	Val	Val	Tyr	Leu	Asp	Pro	Ser	Glu	Pro
				115				120					125		
Asp	His	Ala	Arg	Val	Lys	Ser	Phe	Cys	Leu	Glu	Leu	Leu	Arg	Arg	Gly
				130				135					140		
Ala	Lys	Thr	Trp	Val	Ser	Ser	Phe	Leu	Ser	Asn	Leu	Asp	Val	Met	Leu
145					150					155				160	
Ala	Thr	Ile	Glu	Gln	Gly	Ile	Ala	Lys	Asp	Gly	Ser	Ala	Gly	Leu	Phe
				165					170					175	
Gly	Pro	Leu	Gln	Lys	Cys	Ile	Phe	Ala	Phe	Leu	Cys	Lys	Ser	Ile	Ile
				180				185					190		
Gly	Ala	Asp	Pro	Ser	Val	Ser	Pro	Asp	Val	Gly	Glu	Asn	Gly	Phe	Val
				195				200					205		
Met	Leu	Asp	Lys	Trp	Leu	Ala	Leu	Gln	Leu	Leu	Pro	Thr	Val	Lys	Val
				210				215					220		
Gly	Ala	Ile	Pro	Gln	Pro	Leu	Glu	Glu	Ile	Leu	Leu	His	Ser	Phe	Pro
225					230				235					240	
Leu	Pro	Phe	Phe	Leu	Val	Ser	Arg	Asp	Tyr	Arg	Lys	Leu	Tyr	Glu	Phe
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206070" T662400T

Val Glu Lys Gln Gly Gln Glu Val Val Arg Arg Ala Glu Thr Glu His
 260 265 270
 Gly Leu Ser Lys His Asp Ala Ile Asn Asn Ile Leu Phe Val Leu Gly
 275 280 285
 Phe Asn Ala Phe Gly Gly Phe Ser Val Phe Phe Pro Thr Leu Leu Thr
 290 295 300
 Thr Ile Gly Arg Asp Lys Thr Gly Leu Arg Glu Lys Leu Lys Asp Glu
 305 310 315 320
 Val Arg Arg Val Met Lys Ser Arg Gly Glu Lys Arg Pro Ser Phe Glu
 325 330 335
 Thr Val Arg Glu Met Glu Leu Val Arg Ser Thr Val Tyr Glu Val Leu
 340 345 350
 Arg Leu Asn Pro Pro Val Pro Leu Gln Tyr Gly Arg Ala Arg Thr Asp
 355 360 365
 Phe Thr Leu Asn Ser His Asp Ala Ala Phe Lys Val Glu Lys Gly Glu
 370 375 380
 Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Arg Asp Pro Ala Val Phe
 385 390 395 400
 Asp Asp Pro Glu Thr Phe Ala Pro Glu Arg Phe Met Gly Ser Gly Lys
 405 410 415
 Glu Leu Leu Lys Tyr Val Phe Trp Ser Asn Gly Pro Glu Thr Gly Thr
 420 425 430
 Pro Thr Pro Ala Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Val Glu
 435 440 445
 Thr Ala Cys Leu Leu Met Ala Glu Ile Phe Tyr Arg Tyr Asp Glu Phe
 450 455 460
 Val Cys Ala Asp Asp Ala Ile Ser Val Thr Lys Leu Asp Arg Ala Arg
 465 470 475 480
 Glu Trp Glu

<210> 27

<211> 1464

<212> DNA

<213> Psidium Guajava

<400> 27

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tacgggtggc	ccctcctcgg	cccgatatcg	gaccgcctgg	actacttctg	gttccaaggc	180
ccggagacgt	tcttcaggaa	gaggatcgag	aagtacaaga	gcaccgtggt	ccgcgcgaac	240
gtgcctccgt	gcttccccctt	cttctcgaac	gtgaagccta	acgtcgtggt	cgctcctcgat	300
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gaaagggcga	aggccgagtt	cggattgaca	caccaggagg	ccatccacaa	cttgctgttc	900
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